REMARKS

Claims 45-61 are presently pending and under examination. No claims are amended, canceled or added by the present Response. A Listing of the Claims appears above for the Examiner's convenience.

Rejections Under 35 U.S.C. § 102 (b)

Applicants respectfully traverse the rejection of claims 45, 47, 49, and 51 under 35 U.S.C. §102(b) as allegedly anticipated by Hayman et al., *J. Cell Biol.* 100: 1948-1954 (1985).

As set forth above, each of the rejected claims is directed to a method that utilizes a conformationally restricted Arg-Gly-Asp sequence. Hayman et al. does not describe methods utilizing a conformationally restricted Arg-Gly-Asp sequence. Consequently, Hayman et al. does not disclose all elements of the claimed invention. Accordingly, the rejection of claims 45, 47, 49, 51 and 53 under 35 U.S.C. §102(b) over as allegedly anticipated by Hayman et al. is unsupported by the cited reference and should be removed.

In the present Office Action, the Examiner maintains that the peptide taught by Hayman et al. comprises additional amino acids, which are additional chemical structures (current Office Action, Paper No. 20031124, mailed December 2003, section 4, paragraph bridging pages 2 and 3). The Examiner further argues that the specification teaches providing an additional chemical structure as one way of obtaining a conformationally restricted RGD peptide (current Office Action, Paper No. 20031124, mailed December 2003, section 4, paragraph bridging pages 2 and 3). The Examiner concludes that, absent evidence to the contrary, the peptide described by Hayman et al. meets the limitations of the claimed peptides. Applicants respectfully disagree for the reasons that follow.

When lack of novelty is based on a printed publication that is asserted to describe the same invention, a finding of anticipation requires that the publication describe all of the elements of the claims. *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1349, 48 U.S.P.Q.2d 1225, (Fed.

Cir. 1998) (quoting *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1544-45, 24 U.S.P.Q.2d 1133, 1136 (Fed. Cir. 1992)). To establish a *prima facie* case of anticipation, the Examiner must show that the single reference cited as anticipatory art describes all the elements of the claimed invention.

The Examiner fails to particularly point out each of the elements claimed by in the invention that are allegedly described in Hayman et. al. The relevant feature with regard to the invention peptides is their conformational restriction, which in each of rejected claims affects the binding activity of the conformationally restricted RGD-containing peptide. Conformational restriction that affects the binding activity of the RGD-containing peptide is not a feature that is attained merely by adding naturally occurring amino acids. The mere presence of such additional amino acids does not inherently confer such conformational restriction on the peptide and, without disclosing the element of conformational restriction, the Hayman et al. reference cannot anticipate the claimed invention. In this regard, the specification teaches at page 6, lines 26-31:

> While the Arg-Gly-Asp sequence has been found to be necessarily invariant in order to retain the binding activity, the composition of the remaining peptide as well as any other chemical moiety present in conjunction with the peptide **may vary without necessarily affecting the activity of the binding site.**
>
> [Emphasis added.]

Thus, it is clear from the teachings of the specification that, while additional chemical moieties can alter the conformation, they do not necessarily affect the activity of the binding site.

Claim 45 is directed to a method of inhibiting binding of a natural ligand to a vitronectin receptor that encompasses contacting the vitronectin receptor with a peptide containing a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting binding of the natural ligand to the vitronectin receptor. Hayman et al. does not describe methods utilizing a peptide containing a conformationally restricted Arg-Gly-Asp sequence to selectively inhibit binding of a natural ligand to the vitronectin receptor.

Claim 47 is directed to method of selectively inhibiting attachment of cells to vitronectin by providing to the cells in vitro a solution of a peptide containing a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting attachment of the cells to the vitronectin. Hayman et al. does not describe methods utilizing a peptide containing a conformationally restricted Arg-Gly-Asp sequence to selectively inhibit attachment of cells to the vitronectin.

Claim 49 is directed to a method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate by providing to the cells in vitro a solution containing a peptide that encompasses a conformationally restricted Arg-Gly-Asp sequence, thereby selectively inhibiting binding of the vitronectin receptor-containing cells to the substrate. Hayman et al. does not describe methods utilizing a peptide containing a conformationally restricted Arg-Gly-Asp sequence to selectively inhibit binding of the vitronectin receptor-containing cells to the substrate.

Claim 51 is directed to a method of selectively inhibiting binding of vitronectin receptor-containing cells to a substrate by the steps of (a) providing to the cells in vitro a peptide containing a conformationally restricted sequence Arg-Gly-Asp in solution and (b) contacting the cells with the solution. Hayman et al. does not describe methods utilizing a peptide containing a conformationally restricted Arg-Gly-Asp sequence to selectively inhibit binding of the vitronectin receptor-containing cells to the substrate.

The Examiner neither provides a rationale or points to particular descriptions in Hayman et al. that appear to show each recited element claimed in the claimed methods, in particular conformational restriction that affects the binding activity of an RGD-containing peptide. This element is not attainable merely by adding naturally occurring amino acids such that the mere presence of such additional amino acids does not inherently confer this element of the inventin. Absent a showing in the Hayman et al. reference of each recited element claimed in the claimed methods, the Office has not satisfied its burden. Overall, the cited reference by Hayman et al. cannot be viewed as anticipating the claimed invention and cannot support the rejection of claims 45, 47, 49, and 51 under 35 U.S.C. §102(b).

In view of the above, Applicants respectfully request removal of the rejection of claims 45, 47, 49, and 51 under 35 U.S.C. §102(b) as allegedly anticipated by Hayman et al., *J. Cell Biol.* 100: 1948-1954 (1985).

Regarding Double-Patenting

Claims 45-61 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 45-42 and 61-68 of U.S. Patent No. 5,981,468. Applicants acknowledge and defer responding to the double-patenting rejection of claims 45-61 until the claimed subject matter has been otherwise deemed allowable.

CONCLUSION

In light of the Remarks herein, Applicants submit that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, he is invited to contact the undersigned attorney.

Respectfully submitted,

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